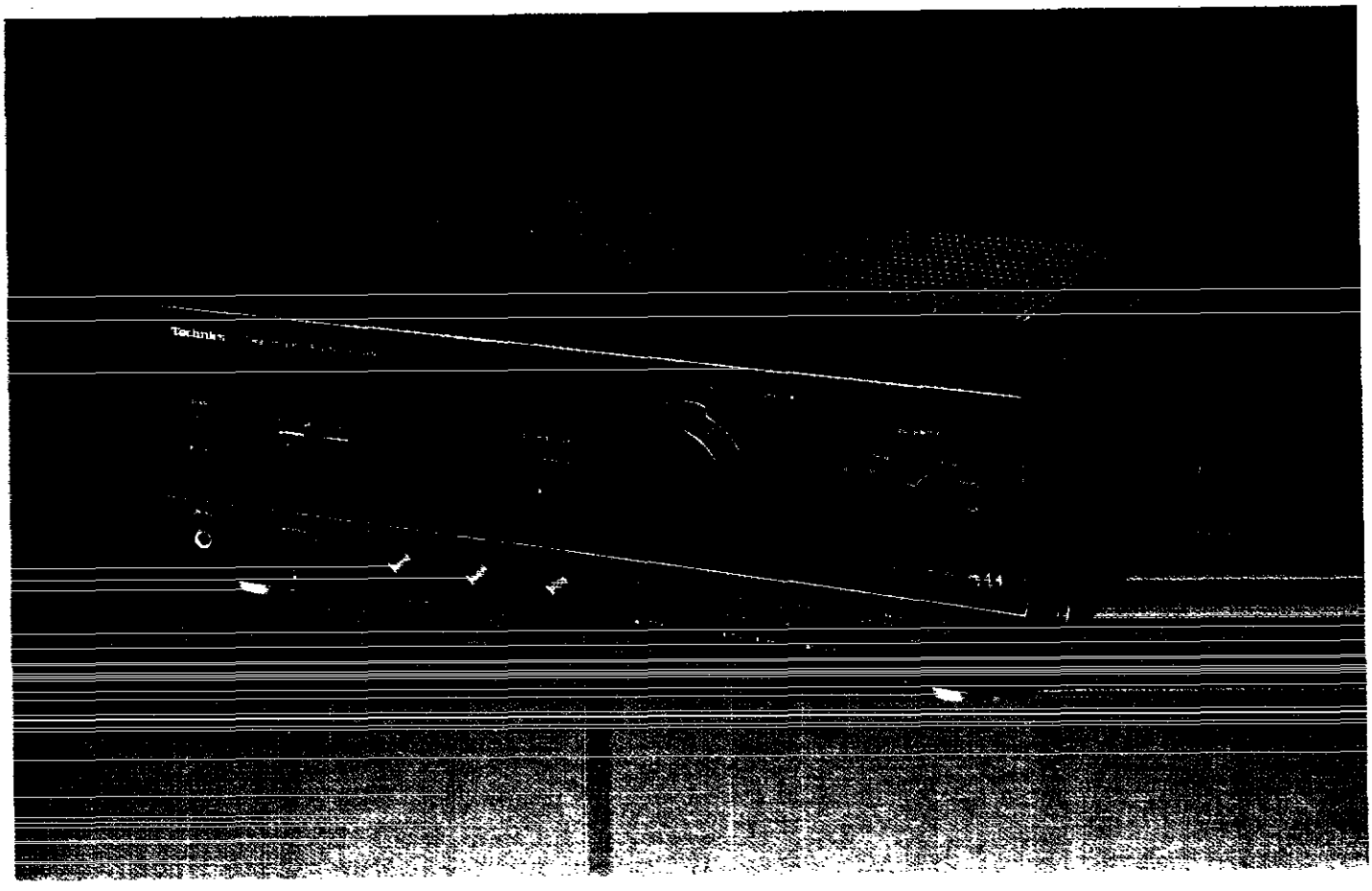
Technics

Stereo Integrated Amplifier

SU-V660

OPERATING INSTRUCTIONS



Notes:
- Specifications differ according to the area code.
- The "EB" area code, for example, indicates United Kingdom specifications.
- The "EB" indication is shown on the packing case and serial number tag.

Before operating this unit, please read these instructions completely.

Dear Stereo Fan

We want to thank you for selecting this product and to welcome you to the growing family of satisfied Technics product owners around the world.
We feel certain you will get maximum enjoyment from this new addition to your home.
Please read these operating instructions carefully, and be sure to keep them handy for convenient reference.

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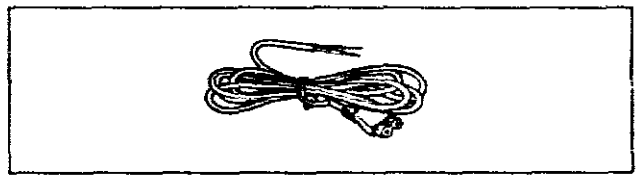
Accessory

- AC power supply cord (Refer to page 5.) 1



For United Kingdom ("EB" area code model only)

The "EB" indication is shown on the name plate.

Important

THE WIRES IN THIS MAINS LEAD ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE.

BLUE:	NEUTRAL
BROWN:	LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows. The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK.
The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

Suggestions for Safety

■ Use a standard AC wall outlet

1. **Use from an AC power source of high voltage, such as for an air conditioner, is very dangerous.**
   There is the possibility that a fire might be caused by making such a connection.
2. **A DC power source cannot be used.**
   Be sure to check the power source carefully, especially on a ship or other place where DC is used.

■ Grasp the plug when disconnecting the power supply cord

1. **Wet hands are dangerous.**
   —A dangerous electric shock may result if the plug is touched by wet hands.
2. **Never place heavy items on top of the power supply cord, and never force it to bend sharply.**

■ Place the unit where it will be well ventilated

Place this unit at least 10 cm (4") away from wall surfaces, etc. Be careful that curtains and similar materials do not obstruct the ventilation holes.

■ Avoid places such as the following:

In direct sunlight or in other places where the temperature is high.
In places where there is excessive vibration or humidity.
Such conditions might damage the cabinet and/or other component parts and thereby shorten the unit's service life.

■ Be sure to place the unit on a flat, level surface.

— If the surface is inclined, a malfunction may result.

■ Never attempt to repair or reconstruct this unit

A serious electric shock might occur if this unit is repaired, disassembled or reconstructed by unauthorized persons, or if the internal parts are accidentally touched.

■ Take particular care if children are present

Never permit children to put anything, especially metal, inside this unit. A serious electric shock or malfunction could occur if articles such as coins, needles, screwdrivers, etc. are inserted through the ventilation holes, etc. of this unit.

■ If water is spilled on the unit

Be extremely careful if water is spilled on the unit, because a fire or serious electric shock might occur. Immediately disconnect the power cord plug, and consult with your dealer.

■ Avoid spray-type insecticides

Insecticides might cause cracks or "cloudiness" in the cabinet and plastic parts of this unit. The gas used in such sprays might, moreover, be ignited suddenly.

■ Never use alcohol or paint thinner

These and similar chemicals should never be used, because they might cause flaking or cloudiness of the cabinet finish.

■ Disconnect the power supply cord if the unit will not be used for a long time

If the unit is left for a long time with the power ON, this will not only shorten its useful operation life, but may also cause other troubles.

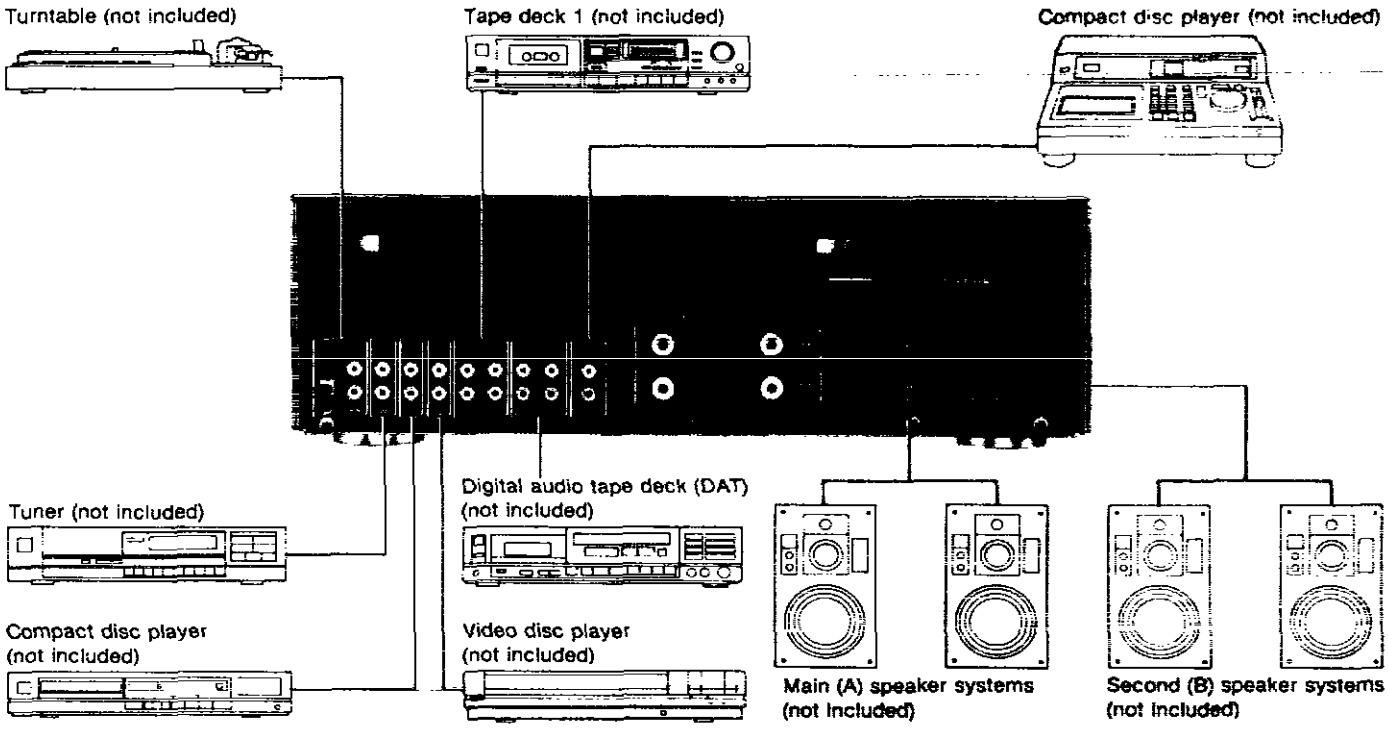
■ If trouble occurs

If, during operation, the sound is interrupted or indicators no longer illuminate, or if abnormal odor or smoke is detected, immediately disconnect the power cord plug, and contact your dealer or an Authorized Service Center.

Connections

Using the short-circuit pins (included)
Shorting pins are inserted into the "PHONO" terminals to reduce noise. Remove the pins before connecting a turntable and reinsert the pins if the turntable is later disconnected. Never connect a shorting pin to a "REC OUT" terminal or any terminal other than those above.

System configurations

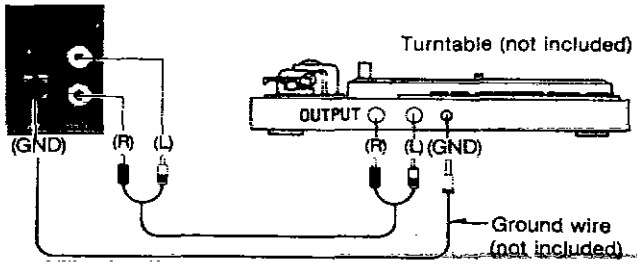

Turntable (not included)
Tape deck 1 (not included)
Compact disc player (not included)
Tuner (not included)
Digital audio tape deck (DAT) (not included)
Compact disc player (not included)
Video disc player (not included)
Main (A) speaker systems (not included)
Second (B) speaker systems (not included)

To connect to each terminals

Make connections to each component in the system by using stereo connection cables (not included).

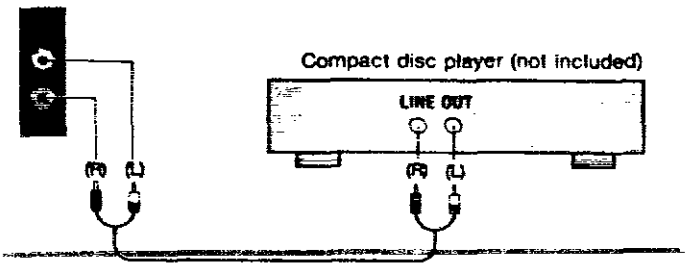
"PHONO" terminals

Connect a turntable. See "Using the short-circuit pins", above.



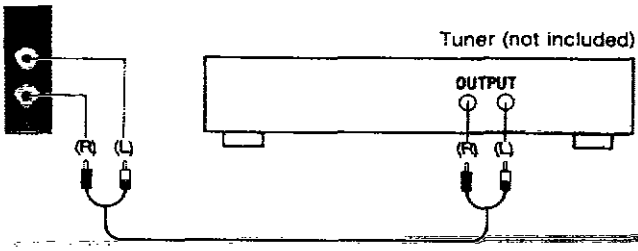
"CD" terminals

Connect a compact disc player.



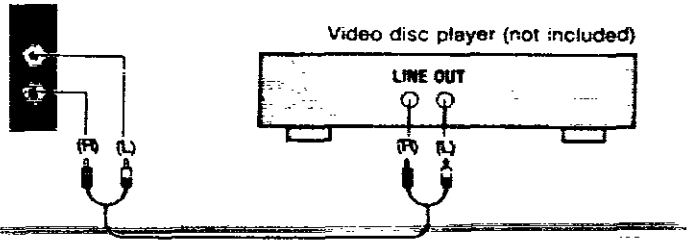
"TUNER" terminals

Connect a tuner.

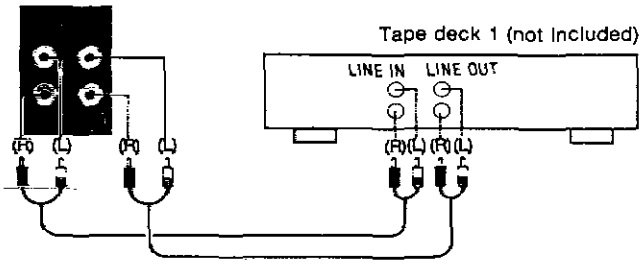


"AUX" terminals

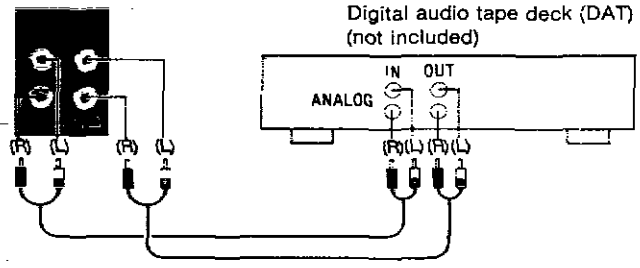
Connect a component such as a video disc player (audio only connectable), etc.



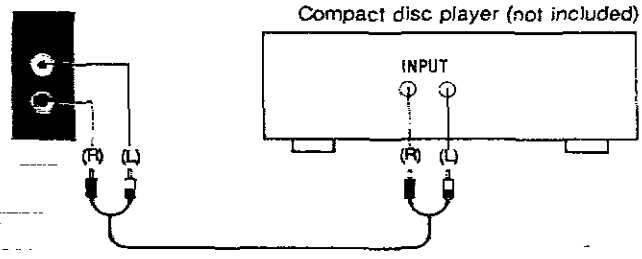
Connect a first tape deck.



Connect a second tape deck or a digital audio tape deck (DAT).

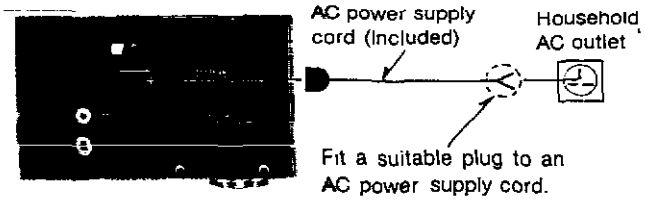


Connect a compact disc player.
A superior level of tone quality can be obtained, because the signal from these terminals are sent directly to the volume control and power amp section of this unit.
The sounds from a component connected to these terminals cannot be recorded.



To connect the AC power supply cord (included)

Connect the AC power supply cord (included) after all other cables and cords are connected.



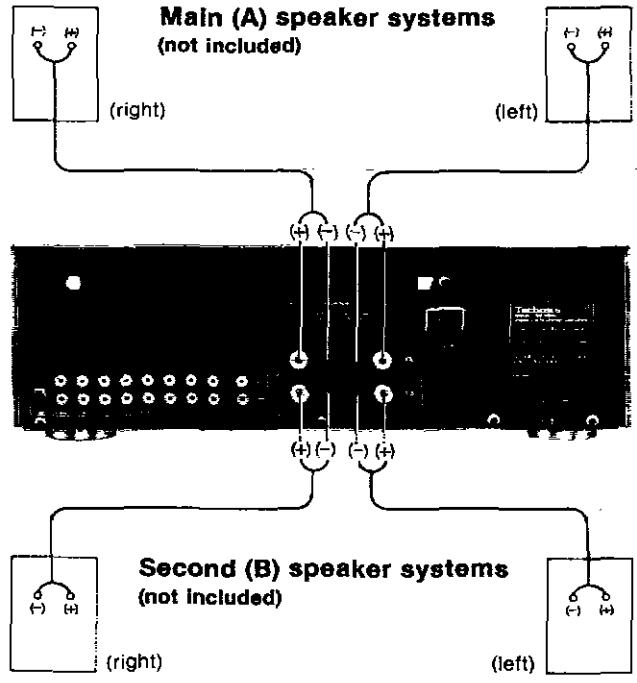
Connection to speaker systems

One pair of speaker systems can be connected to the "A" terminals of this unit and one pair to the "B" terminals.

■ Load impedance

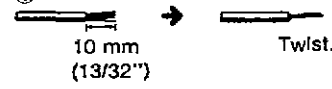
- When only the "A" or only the "B" terminals are used:4-16 ohms
- When both the "A" and the "B" terminals are used simultaneously:8-16 ohms

To connect main (A) and/or second (B) speaker systems



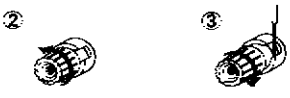
■ To connect cords to terminals

① Strip off the outer covering, and twist the center conductor.



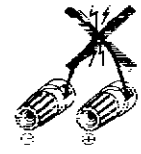
② Turn 5 or 6 times.

③ Insert the wire and tighten screw completely.
Pull the wire to assure a proper connection.

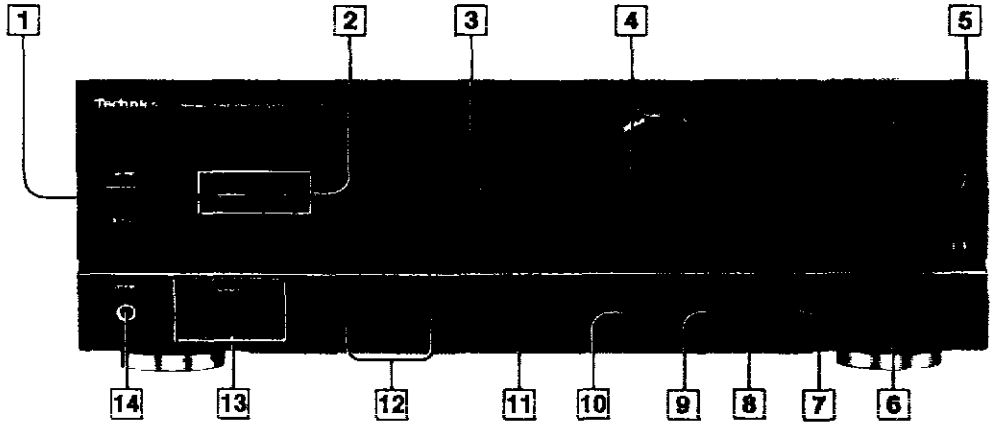


Note: Be sure to only connect positive (+) cords to positive (+) terminals, and negative (−) cords to negative (−) terminals.

Note:
To prevent damage to circuitry, never short-circuit the plus (+) and minus (−) speaker terminals.



Front Panel Controls and Functions



1 Power switch (power)

2 Operation indicators (amplifier operation monitor)

This indicator illuminates to indicate the operating condition of this unit.

voltage control:

When the power is switched ON, this indicator illuminates when the unit is in the operation condition.

current drive:

When the power is switched ON, this indicator illuminates after about 4 seconds when the unit is in the operation condition.

If an abnormal condition in the circuitry is detected, such as DC voltage appearing in the output, or a short-circuit of the positive (+) and negative (−) wires from the speaker terminals, the protection circuit functions and this indicator does not illuminate.

3 Power amplifier direct switch (power amp direct)

This switch is used to listen to the sound from a component connected to the "POWER AMP DIRECT" terminals.

When this switch is pressed inward to the "on" position, a superior level of tone quality can be obtained, because the signals from the component connected to the "POWER AMP DIRECT" terminals are sent directly to the volume control and power amp section of this unit. The mode selector, loudness switch, balance control and tone control circuit are bypassed.

4 Volume control/indicator (volume)

There are two types of volume scale indications: one for when the power amplifier direct switch is OFF, and one for when it is ON (indicator will illuminate.).

5 Input selector (input selector)

This selector is used to select the sound source to be heard, such as a disc, radio broadcast, etc.

6 Recording output selector (rec selector)

This selector is used to select the sound source to be recorded by the connected tape deck 1 and/or tape deck 2.

7 Phono cartridge selector (phono selector)

This selector should be set to the position which corresponds to the type of cartridge used on the turntable.

8 Mode selector (mode)

This selector is used to select stereo or monaural operation.

9 Loudness switch (loudness)

This switch is used when listening to music at a low volume level. Auditory perception of sound in the low frequency range falls off at low volume, but when the switch is set to the "on" position, this deficiency is compensated for, so that the full impact of the musical performance can be enjoyed

10 Tone control switch (tone control)

This switch is used to turn the tone control circuit (bass, treble) on or off.

11 Balance control (balance)

This control is used to adjust the left/right volume balance.

12 Tone controls (bass/treble)

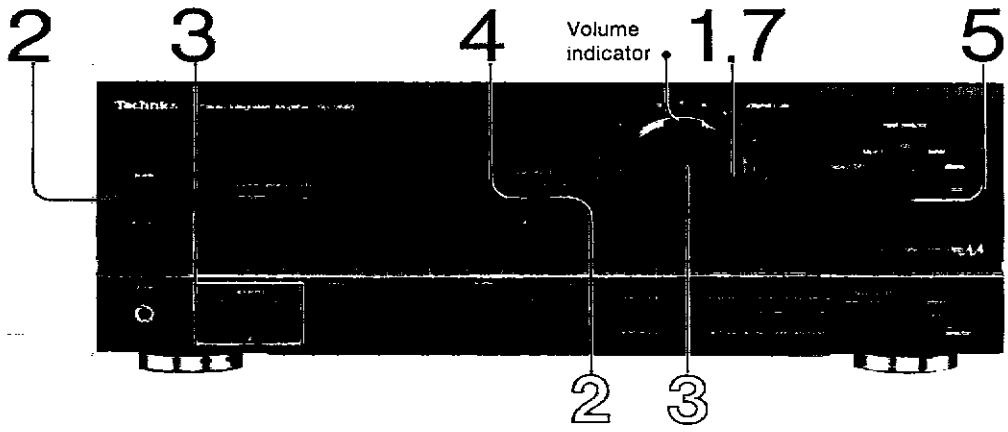
The bass control is used to adjust the low-frequency sound range, and the treble control is used to adjust the high-frequency sound range.

13 Speaker selectors (speakers)

These selectors are used to turn the speaker systems on and off.

14 Headphones jack (phones)

Listening to the Sound



Listening to the phono disc or tapes, etc.

1 volume
Set the volume control to the "∞" position.

2 power
Switch ON the power switch.

3 speakers
Select the speaker system [main (A) and/or second (B)] to be used.

4 power amp direct
Set the power amplifier direct switch to the "off" position.

5 input selector
Select the sound source.

tape 2/DAT: Set to this position to listen to equipment connected to the "TAPE 2/DAT" terminals.
tape 1: Set to this position to listen to the tapes.
CD: Set to this position to listen to compact discs.
tuner: Set to this position to listen to radio broadcasts.
phono: Set to this position to listen to phono discs. Then, set the phono cartridge selector to the position which corresponds to the type of cartridge used on the turntable. (Refer to "phono selector" on page 8.)
aux: Set to this position to listen to equipment connected to the "AUX" terminals.

6 **Begin operation of the components to be used.**
Refer to the operating instructions of each component.

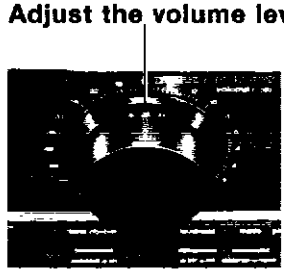
7 volume
Adjust the volume level.
Adjust the tone quality, etc. (Refer to page 8.)

Listening to a component connected to the "POWER AMP DIRECT" terminals

1 **Follow steps 1 – 3 described at the left.**

2 power amp direct
Set the power amplifier direct switch to the "on" position.
(The volume indicator will illuminate.)

3 volume
Adjust the volume level using this scale.

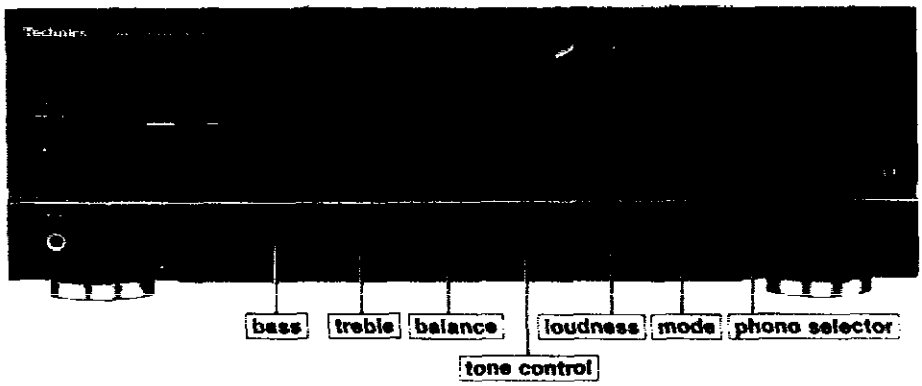


Note:
The tone quality, the mode, the loudness, and the balance cannot be adjusted.

After listening is finished

Use the volume control to reduce the volume level and switch OFF the power of each unit.

Listening to the Sound (continued)



While listening to music

phono selector

Select the cartridge-type when listening to phono discs.

MM (→): Set to this position when using a movingmagnet type cartridge or high-output movingcoil cartridge (1 mV or more).

MC (→): Set to this position when using a moving-coil type cartridge.

mode

Select the stereo or monaural operation.

stereo (→): Set to this position to listen in stereo.

mono (→): Set to this position to listen monaurally. The left and right sounds will be mixed, and the same sounds will be heard from both speakers.

loudness

When listening to music at a low volume level, press inward the loudness switch to the "on" position for compensation of the bass range.

tone control

Press the tone control switch to the "on" position if you want to adjust the bass or treble tone quality.

If set to the "defeat" position, tone controls have no effect, and frequency response becomes flat.

balance

Adjust the balance for the left/right volume.

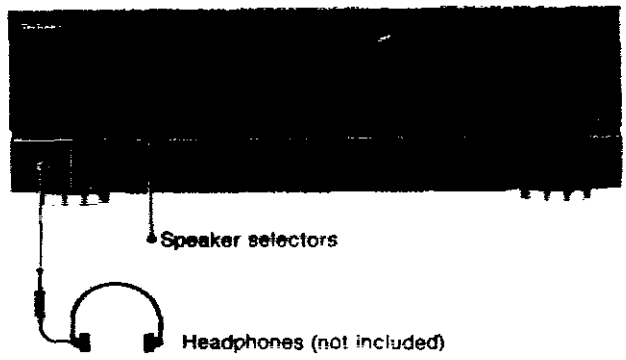
treble

Adjust the high-frequency sound to the desired tone quality.

bass

Adjust the low-frequency sound to the desired tone quality.

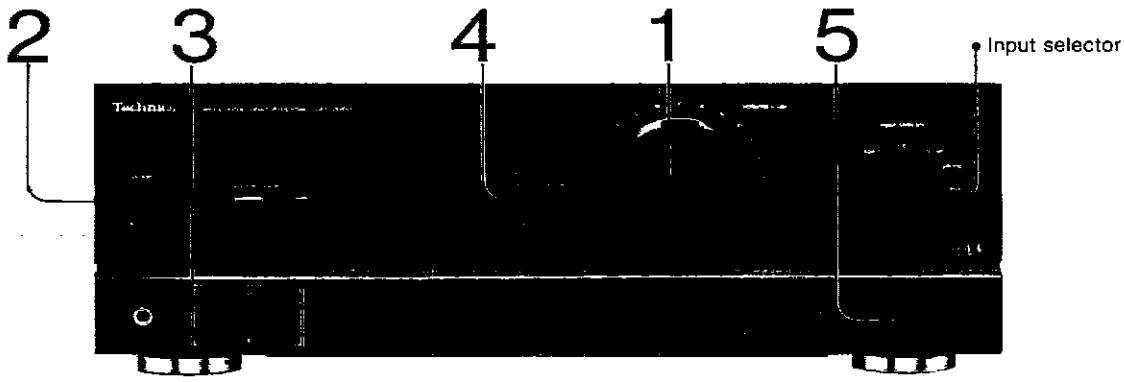
While listening through headphones



- Reduce the volume level before connecting headphones.
- If the sound from the speakers is not wanted, set the speaker selectors to the "off" position.
- Avoid listening for a long time at a volume level so high that it irritates the ears.

Recording

Note:
Tape deck 1 is the tape deck connected to the "TAPE 1" terminals.
Tape deck 2 is the tape deck connected to the "TAPE 2/DAT" terminals.



To record from compact discs, etc.

1 volume
Set the volume level to the "∞" position.

2 power
Switch ON the power switch.

3 speakers
Select the speaker system [main (A) and/or second (B)] to be used.

4 power amp direct
Set the power amplifier direct switch to the "off" position.
Notes:
1. If this switch is set to the "on" position, the sound selected by the input selector cannot be heard. (There is no problem in recording.)
2. The sounds from a component connected to the "POWER AMP DIRECT" terminals cannot be recorded.

5 rec selector
Select the program source to be recorded.
CD: Set to this position to record from compact discs.
tuner: Set to this position to record from radio broadcasts.
phono: Set to this position to record from phono discs.
aux: Set to this position to record from equipment connected to the "AUX" terminals.

6 **Begin the operation of the sound source to be recorded.**
Refer to the operating instructions of each component.

7 **Adjust the recording level by using the controls on the tape deck 1 and/or 2 (or DAT). Then begin recording.**
Refer to the operating instructions of the tape decks or DAT.

■ To listen while recording

- **To listen to the source being recorded ...**
  The input selector setting and the recording output selector setting should be the same.
- **To listen to a source other that the one now being recorded ...**
  Select the source by using the input selector.

■ To check the sound being recorded

If the recording is being made to tape deck 1, use the "tape 1" input selector setting; if the recording is being made to tape deck 2 (or DAT), use the "tape 2/DAT" input selector setting.

Edit-recording

Tape-to-tape recordings can be made if two regular tape decks, or one regular tape deck and a digital audio tape (DAT) deck, are connected to the rear panel of this unit.

■ To record from tape deck 1 to 2 (or DAT)

1. Set the recording output selector to the "tape 1▶2/DAT".
2. Set the input selector to the "tape 1".
3. Begin the tape deck 1 for playback and the tape deck 2 (or DAT) for recording.

To check the sound being recorded, set the input selector to the "tape 2/DAT" position.

■ To record from tape deck 2 (or DAT) to 1

1. Set the recording output selector to the "tape 2/DAT▶1".
2. Set the input selector to the "tape 2/DAT".
3. Begin the tape deck 2 (or DAT) for playback and the tape deck 1 for recording.

To check the sound being recorded, set the input selector to the "tape 1" position.

■ To listen to a sound source other than the one being recorded

Use the input selector to select the sound source you want to hear.

Technical Specifications (DIN 45 500)

20 Hz~20 kHz continuous power output	
both channels driven	2 × 85 W (8 Ω)
1 kHz continuous power output	
both channels driven (THD: 1 %)	2 × 95 W (8 Ω)
	2 × 135 W (4 Ω)
63 Hz~12.5 kHz continuous power output	
both channels driven (0.7 %)	2 × 85 W (8 Ω)
	2 × 120 W (4 Ω)
Total harmonic distortion (Power Amp Direct input)	
rated power at 20 Hz~20 kHz	0.005 % (8 Ω)
rated power at 1 kHz	0.0009 % (8 Ω)
	0.002 % (4 Ω)
half power at 20 Hz~20 kHz	0.005 % (8 Ω)
half power at 1 kHz	0.0009 % (8 Ω)
	0.002 % (4 Ω)
Intermodulation distortion	
rated power at 50 Hz: 7 kHz = 4:1, SMPTE, 8 Ω	0.007 %
Residual hum and noise	0.2 mV
Damping factor	60 (8 Ω), 30 (4 Ω)
Headphones output level and impedance	650 mV/330 Ω
Load impedance	
A or B	4 Ω~16 Ω
A and B	8 Ω~16 Ω
Input sensitivity and impedance	
PHONO MM	2.5 mV/47 kΩ
PHONO MC	170 μV/220 Ω
TUNER, CD, AUX, TAPE 1, TAPE 2/DAT	150 mV/22 kΩ
POWER AMP DIRECT	1 V/18 kΩ
Phono maximum input voltage (IHF '66, 1 kHz, RMS)	
MM	170 mV
MC	12 mV
S/N	
rated power (4 Ω)	
PHONO MM	79 dB (IHF '66: 86 dB)
PHONO MC	67 dB (IHF '66: 68 dB, 250 μV)
TUNER, CD, AUX, TAPE 1, TAPE 2/DAT	97 dB (IHF '66: 100 dB)
POWER AMP DIRECT	106 dB (IHF '66: 115 dB)
−26 dB power (4 Ω)	
PHONO MM	77 dB
PHONO MC	67 dB
TUNER, CD, AUX, TAPE 1, TAPE 2/DAT	84 dB
50 mW power (4 Ω)	
PHONO MM	75 dB
PHONO MC	67 dB
TUNER, CD, AUX, TAPE 1, TAPE 2/DAT	78 dB
Frequency response	
PHONO	RIAA standard curve
	±0.8 dB (30 Hz~15 kHz)
TUNER, CD, AUX, TAPE 1, TAPE 2/DAT	
	3 Hz~100 kHz (−3 dB)
	+0 dB, −0.2 dB (20 Hz~20 kHz)
POWER AMP DIRECT	2 Hz~120 kHz (−3 dB)
	+0 dB, −0.2 dB (20 Hz~20 kHz)
Tone controls	
BASS	50 Hz, +10 dB, −10 dB
TREBLE	20 kHz, +10 dB, −10 dB
Loudness control (volume at −30 dB)	50 Hz, +9 dB
Output voltage	
TAPE 1, TAPE 2/DAT, REC OUT	150 mV
Channel balance, AUX 250 Hz~6,300 Hz	±1 dB
Channel separation, AUX 1 kHz	50 dB

■ GENERAL

Power consumption	640 W
Power supply	AC 50 Hz/60 Hz, 240 V
Dimensions (W × H × D)	430 × 158 × 370 mm
	(16-15/16" × 6-7/32" × 14-9/16")
Weight	11.5 kg (25.4 lb.)

Notes:

1. Specifications are subject to change without notice. Weight and dimensions are approximate.
2. Total harmonic distortion is measured by the digital spectrum analyzer.

Protection Circuitry

The protection circuitry may have operated if either of the following conditions is noticed:

- No sound is heard when the power is switched ON. (The current drive indicator of the operation indicator is not illuminated.)
- Sound stops during a performance.

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted", if speaker systems with an impedance less than the indicated rated impedance of this unit are used, or if DC voltage appears in the output

If this occurs, follow the procedure outlined below:

1. Switch OFF the power.
2. Determine the cause of the problem and correct it
3. Switch ON the power once again

Note:

When the protection circuitry functions, the unit will not operate unless the power is first switched OFF and then ON again.

Troubleshooting Guide

Before requesting service for this unit, check the chart below for a possible cause of the problem you are experiencing. Some simple checks or a minor adjustment on your part may eliminate the problem and restore proper operation.
If you are in doubt about some of the check points, or if the remedies indicated in the chart do not solve the problem, refer to the directory of Authorized Service Centers (enclosed with this unit) to locate a convenient service center, or consult your Technics dealer for instructions.

Problem	Probable cause(s)	Suggested remedy
During disc play		
The sound lacks clarity and volume.	The phono cartridge selector is incorrectly set to the "MM" position when a moving-coil type cartridge is being used.	• Set it to the "MC" position.
The high-frequency range cannot be clearly heard.	The phono cartridge selector is incorrectly set to the "MC" position when a moving-magnet type cartridge is being used.	• Set it to the "MM" position.
Problems noted at all times		
No sound is heard when the power is switched ON.	The power cord plug is not completely inserted.	• Confirm that the power cord plug is connected completely.
	Connections are incomplete or incorrect to the speaker systems, etc.	• Check to be sure that all connection wires are correctly connected.
	The input selector's setting is incorrect.	• Check to be sure that the selection of the desired sound source is made correctly.
	The speaker selectors are set incorrectly.	• Set them to the correct position.
When listening to stereo sound, the sound lacks depth (i.e. thin bass, tinny sound).	One of the speakers is connected out of phase [(+)→(−), (−)→(+)].	• Reconnect the speakers maintaining proper polarity [i.e., (+)→(+), (−)→(−)].
When listening to stereo sound, the left and right sounds are reversed.	The left and right speaker connections, source connections, or graphic equalizer connections are reversed.	• Check all connections and correct them if necessary.
A low-pitched noise ("hum" or "buzz") is heard.	The power cord or a fluorescent light, etc., is near the connection wires.	• Try separating this unit as far as possible from the electric appliance.
Sound is not heard from one of the speaker systems.	The speaker wires are disconnected.	• Check and correct the connections of the speaker wires.
	The balance control is set too far to one side.	• Set so that sounds are heard at the center, between the speaker systems.
Sound stops during a performance, or no sound is heard when the power is switched ON.	The protection circuitry has functioned because the positive and negative speaker connection wires are "shorted" or speaker systems with an impedance less than the indicated rated impedance of the amplifier are used. DC voltage appears in the output, causing the protection circuitry to function.	• Switch OFF the power, and, after determining and correcting the cause, switch ON the power once again. • Use a speaker system of the proper impedance rating.

Maintenance

To clean this unit, use a soft, dry cloth.
For very dirty surfaces, dip a soft cloth in a weak soap-and-water solution and wring well. After cleaning, wipe with a soft, dry cloth.

Never use alcohol, paint thinner, benzine, or a chemically treated cloth to clean this unit.
Such chemicals may damage the unit's finish.

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